

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Patent Application of: **Turunc, et al.**

Serial No.: **10/765,739**

Group Art Unit: **1714**

Filed: **January 27, 2004**

Examiner: **C.D. Toomer**

For: **METHOD OF SUPPRESSION AND PREVENTION OF COAL FIRES**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**DECLARATION OF UMIT TURUNC**  
**PURSUANT TO 37 C.F.R. § 1.132**

I hereby declare as follows:

1. I am the same Umit Turunc who is named as an inventor of the invention described and claimed in the patent application referenced above.
2. I have reviewed the prior art cited by the Examiner in the Office Action in the patent application referenced above.
3. In accordance with the present invention, a method for the suppression and prevention of coal fires is disclosed, using a water soluble cationic polymer and a wetting agent selected from an anionic or nonionic surfactant, or mixtures thereof.
4. Note that the use of water for extinguishing of coal fires and cooling of hot spots, i.e. areas of high oxidation in coal mines is contra-indicated (see, e.g., WY State Geological Survey: Coal Report CR 01-1, previously submitted). In fact, until we introduced the concept to various mines, the use of water for coal fire suppression in mine areas was strongly discouraged.

5. In all relevant cited prior art, the compounds and compositions are applied to coal that has already been mined, i.e. excavated and removed from the mine area, and then processed, transported and stockpiled at a utility coal yard or a coal transport facility.

6. It would be apparent to one skilled in this technology that any compound or composition applied as a foam or a spray would not be effective in penetrating the interstices of a coal pile, whether deliberately made, such as a stockpile, or formed at the foot of a high wall due to weathering and sloughing of the exposed coal bed (see, e.g., WY State Geological Survey: Coal Report CR 01-1, pages 3-4).

7. Roe et al., for instance, refers to large coal handling facilities and coal fueled power plants (see, e.g., column 1, lines 30-48 of reference). To one skilled in the art, the pit area of an active mine would not be considered to be a coal handling facility.

8. The present invention employs a surfactant combination to enhance the penetration of the water into the coal piles at the active areas of the mine, to extinguish fires and cool off hot-spots. Minimizing the amount of water used in dust control applications (as in Zinkan et al.) is contrary to our goal of using sufficient water to fight and prevent reoccurrence of fires at surface mine sites.

9. Implicit in the Yamada et al. reference is the prevention of oxidation of coal surfaces by applying a polymeric substance. This and similar methods of applying an impervious coating to coal surfaces to exclude air, and hence reduce the oxidation of coal surfaces, are well known in the industry. The surfactants (alkylphenol ethoxylates) mentioned in Yamada et al. are solely for the purposes of formulation and application aids to coat the coal particles with the polymeric or oily materials, thereby excluding air from coal surfaces and reducing oxidation.

## PATENT

10. Thus, I declare that the present invention is a significant improvement over the disclosures of the prior art.

11. I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this patent application or any patent issuing thereon.

4/25/2007  
Date

By: <sup>or</sup> Umit Turunc  
Umit Turunc